

WHAT IS CLAIMED IS :

1. A method for equipping personal digital product with functions of recording and displaying the digital video/audio multi-media,
5 comprising:

~~providing a modulated interlacing video signal and an analog~~
audio signal;

de-modulating and de-interlacing said modulated interlacing video signal to convert said modulated interlacing video signal to a
10 digitalized de-interlaced video signal;

processing digital transformation of said analog audio signal for digitalizing said analog audio signal to obtain a digital audio signal;

compressing said de-interlaced video signal to obtain a compressed de-interlaced video signal;

15 compressing said de-interlaced audio signal to obtain a compressed de-interlaced audio signal;

synchronizing said compressed de-interlaced video signal and said compressed digital audio signal to obtain a synchronized compressed video signal and compressed audio signal; and

20 outputting said synchronized compressed video signal and compressed audio signal to a processing unit of said digital product for selecting from recording or displaying or both recording and displaying of said synchronized compressed video signal and

compressed audio signal.

2. An apparatus for equipping PC with functions of recording and displaying the digital video/audio multi-media, comprising:

5 a digital video signal compressing unit, which compressing a
~~de-interlaced dynamic video signal to reduce bandwidth used by said~~
de-interlaced dynamic video signal;

 a digital audio signal compressing unit, which compressing a
digital audio signal to reduce bandwidth used by said digital audio
10 signal; and

 a video/audio synchronizing unit, which synchronizing said
compressed de-interlaced video signal and said compressed digital
audio signal to obtain synchronized compressed video signal and
compressed audio signal and output said synchronized compressed
15 video signal and compressed audio signal.

3. The apparatus according to claim 2, wherein said apparatus further
includes a digital video signal decoding unit, said digital video signal
decoding unit demodulating a modulated interlacing video signal to
20 obtain a digitalized dynamic video signal.

4. The apparatus according to claim 2, wherein said apparatus further
includes a de-interlacing unit, said de-interlacing unit de-interlacing

a dynamic video signal to convert said interlacing video signal to a de-interlaced dynamic video signal.

5 5. The apparatus according to claim 2, wherein said apparatus further includes an audio signal analog/digital converting unit, said audio signal analog/digital converting unit putting an analog audio signal under digital transformation to obtain a digital audio signal.

10 6. The apparatus according to claim 2, wherein said apparatus further includes an outputting bus interface unit, said outputting bus interface unit outputting said synchronized compressed video signal and compressed audio signal for displaying said synchronized compressed video signal and compressed audio signal.

15 7. The apparatus according to claim 6, wherein said outputting bus interface unit is a USB.

8. The apparatus according to claim 6, wherein said outputting bus interface unit is a PCI.

20

9. A system for equipping personal digital product with functions of recording and displaying the digital video/audio multi-media, comprising:

a digital video signal decoding unit, which demodulating a modulated interlacing video signal to obtain a digitalized dynamic video signal;

5 a de-interlacing unit, which de-interlacing said dynamic video signal to convert said interlacing video signal to a de-interlaced dynamic video signal;

an audio signal analog/digital converting unit, which putting an analog audio signal under digital transformation to obtain a digital audio signal;

10 a digital video signal compressing unit, which compressing said de-interlaced dynamic video signal to reduce bandwidth used by said de-interlaced dynamic video signal;

a digital audio signal compressing unit, which compressing a digital audio signal to reduce bandwidth used by said digital audio
15 signal;

a video/audio synchronizing unit, which synchronizing said compressed de-interlaced video signal and said compressed digital audio signal to obtain a synchronized compressed video signal and compressed audio signal;

20 an outputting bus interface unit, which outputting said synchronized compressed video signal and compressed audio signal for displaying said synchronized compressed video signal and compressed audio signal; and

a processing unit located in said personal digital product, which being used for controlling recording or displaying or both recording and displaying of said synchronized compressed video signal and audio signal.

5

10. The system according to claim 9, wherein said outputting bus interface unit is a USB.

11. The system according to claim 9, wherein said outputting bus interface unit is a PCI.

10

12. A system for equipping PC with functions of recording and displaying the digital video/audio multi-media, comprising:

a digital video signal decoding unit, which demodulating a modulated interlacing video signal to obtain a digitalized dynamic video signal;

15

a de-interlacing unit, which de-interlacing said dynamic video signal to convert said interlacing video signal to a de-interlaced dynamic video signal;

an audio signal analog/digital converting unit, which putting an analog audio signal under digital transformation to obtain a digital audio signal;

20

a digital video signal compressing unit, which compressing

said de-interlaced dynamic video signal to reduce bandwidth used by
said de-interlaced dynamic video signal;

a digital audio signal compressing unit, which compressing a
digital audio signal to reduce bandwidth used by said digital audio
5 signal; and

~~a video/audio synchronizing unit, which synchronizing said~~
compressed de-interlaced video signal and said compressed digital
audio signal to obtain a synchronized compressed video signal and
compressed audio signal and to output said synchronized compressed
10 video signal and compressed audio signal.

13. The system according to claim 12, wherein said system further
includes a outputting bus interface unit, said outputting bus interface
unit outputting said synchronized compressed video signal and
15 compressed audio signal to display said synchronized compressed
video signal and compressed audio signal.

14. The system according to claim 13, wherein said outputting bus
interface unit is a USB.

20 15. The system according to claim 13, wherein said outputting bus
interface unit is a PCI.